Information and Data Standards

Health Information Standards Definition and Approval Process

Working Document

VERSION 1.0

Health Information Standards Committee for Alberta

November 30, 1999

Alberta
HEALTH AND WELLNESS

INTRODUCTION

What Are Standards?

The term 'standard' is so frequently used that the meaning can become obscured, particularly as it can be used in relation to such diverse things as procedures, products, scales of measurement and data formats and may also be used to imply quality as well as content. What all these things have in common is that they represent an agreed means of describing things, which through common adoption can lead to efficiency, economy and reliability.

Types of Data Standards

Data standards promote the consistent recording of information and are fundamental to the efficient exchange of information. They provide the rules for structuring information, so that the data entered into a system can be reliably read, sorted, indexed, retrieved, communicated between systems, and shared. They help protect the long-term value of data.

There are at least four types of data standards of interest to HISCA that refer to the organization and content of information, including:

- **Data Structure** standards are concerned with the definition of a record and the relationship of the attributes within it. These attributes together form Data Content standards.
- **Data Content** standards are the rules for how data are entered, for example cataloging rules and syntax conventions.
- **Data Value** standards usually take the form of controlled vocabularies, including subject specific-terminologies. (E.g. medical equivalents dictionary - used to assure standard values and interpretations). Terminologies and structures (e.g. hierarchies) form **Data Classification** standards. Classification systems are sometimes treated as data value standards because their elements can sometimes be used as values. Controlled terminology comes under the heading of **Vocabulary Conventions**.
- **Data Communication** or information interchange standards are standards which define the technical framework for exchanging information work between systems functioning either within a single institution or among systems in multiple institutions.

Standards Definition and Approval Process

The purpose of this document is to describe the process by which interested stakeholders may make submissions to the Health Information Standards Committee for Alberta (HISCA) with the objective of establishing health information standards and/or health technology standards for use across Alberta's health system.

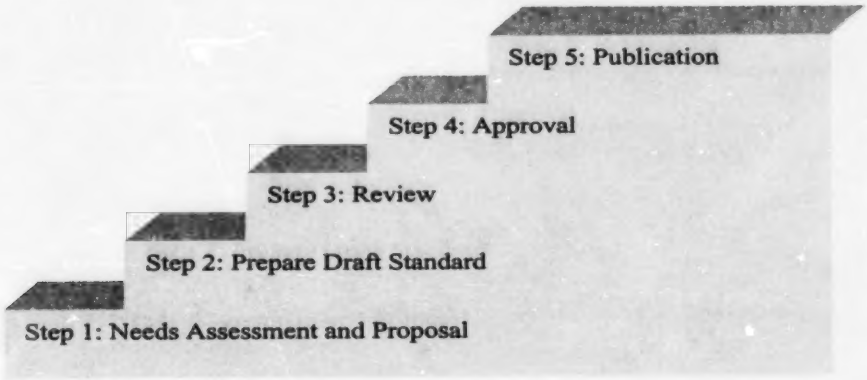
The mandate of HISCA is to oversee and coordinate the development, adoption and dissemination of approved health information data and technology standards within Alberta. The Committee ensures these standards align with approved provincial reporting standards, as well as national and international standards. The Committee fulfills these responsibilities through a process of collaboration and consensus building with stakeholders. HISCA reports to the CIO of Alberta Health and Wellness.

Who Does the Work?

Stakeholders or stakeholder organizations within the health sector undertake the actual development of, or research into, specific standards. Any individual stakeholder or any stakeholder organization in Alberta's health system (including HISCA) may sponsor standard's submissions to HISCA. Each submission must identify a lead spokesperson who will present the submission to HISCA. This individual will be responsible for following and completing the processes associated with a specific submission.

Standards Definition and Adoption Process

In general, standards are developed using the following five-step process:



Fast Track Approach

If a standard with a certain degree of maturity is available, it is possible to omit certain steps. In a "Fast-track Approach", a standard is submitted directly for approval as a draft standard to HISCA (step 3). Or, if a standards development organization recognized by HISCA has developed the standard, it can be submitted directly as a final draft standard (step 4), without passing through the previous steps.

Standards Assessment Timeline

The standards definition and approval process may be triggered during several stages of a systems development cycle. Figure A.1 in Appendix A illustrates those critical checkpoints in the system development process in which health information and technology standards should be addressed. In addition, figure A.1 illustrates the overlap between Privacy Impact Assessment (PIA), Alberta Health Enterprise Architecture Definition (AHEAD), and HISCA processes.

STANDARDS DEFINITION AND ADOPTION PROCESS STEPS

Step 1: Needs Assessment and Proposal

1.1 Standards Needs Assessment

Once approved and funded, every Alberta Health and Wellness and alberta we//net systems project with potential standards implications must complete a standards needs assessment. A standards needs assessment examines the data capture, coding and exchange requirements of systems projects. This assessment is a high level analysis of whether your project requires the definition of a new or the adoption of an existing health information or technology standard. If, upon completing the assessment, it is determined that a new standard is required, the project team would become the standards developer for this standard. HISCA resource staff will be available for assistance.

Please refer to Appendix B for an overview of the **Standards Needs Assessment Process** and its application.

1.2 Proposal for a New Standard

If as a result of the standards needs assessment it is determined that a new standard is required, a proposal will be created by HISCA resource staff through consultation with project leaders, and then submitted to HISCA. This proposal will briefly describe the projected standard and how it will benefit Alberta's health system. In addition, it will identify project milestones and the stakeholders involved in both the working group and review committee. Through this proposal, HISCA will ensure that the standard development activity:

- is communicated across the health sector by inviting up-front stakeholder input;
- is recognized as a priority activity from a provincial perspective;
- is recognized as being the lead activity in a specific area and thus attempting to minimize duplication or overlap of similar standard's initiatives; and,
- will result in a formal review of a draft standard (6-12 month review) for which comment from all stakeholders will be invited.

A copy of a HISCA **Proposal for a New Standard** is provided in Appendix C of this document.

Step 2: Prepare Draft Standard

A working group of experts selected by and including the project sponsor will work towards the development of a draft standard. Successive working drafts may be produced until the working group is satisfied that it has developed the best technical solution to the problem being addressed.

A comprehensive outline for developing a **Draft Data Standard** is described in Appendix D.1 of this document.

Once a final version of the draft data standard is developed and in suitable document format, it is presented to HISCA for review in the next step of the standards process. Submission guidelines for standard's documents presented to HISCA should include:

- An application area specific introduction providing insight into the development of the standard and reason(s) for it's importance.
- A list of data elements organized and formatted using the International Standards Organization (ISO) standard's template described in Appendix D.2 and D.3.
- The data model(s) used for AHEAD data architecture compliance.

Step 3: Review

HISCA is now the custodian of the draft standard and the review process begins. The draft standard will be provided to relevant stakeholder organizations and published on the HISCA website for review and comment within a period of six to twelve months. Comments and concerns will be collected by HISCA and forwarded to the project sponsor for resolution. If the project sponsor or the original working group is no longer in place, HISCA will then assume these roles and incorporate appropriate feedback into the standard's document. The revised standard will again be published for review and comment as a draft standard. The standard is approved for submission as a final draft standard when all issues/concerns have been addressed.

Step 4: Approval

The final draft standard is recommended to the CIO Alberta Health and Wellness for approval.

Step 5: Publication

Once a final draft standard has been approved, the final text is published on the HISCA website as an approved standard.

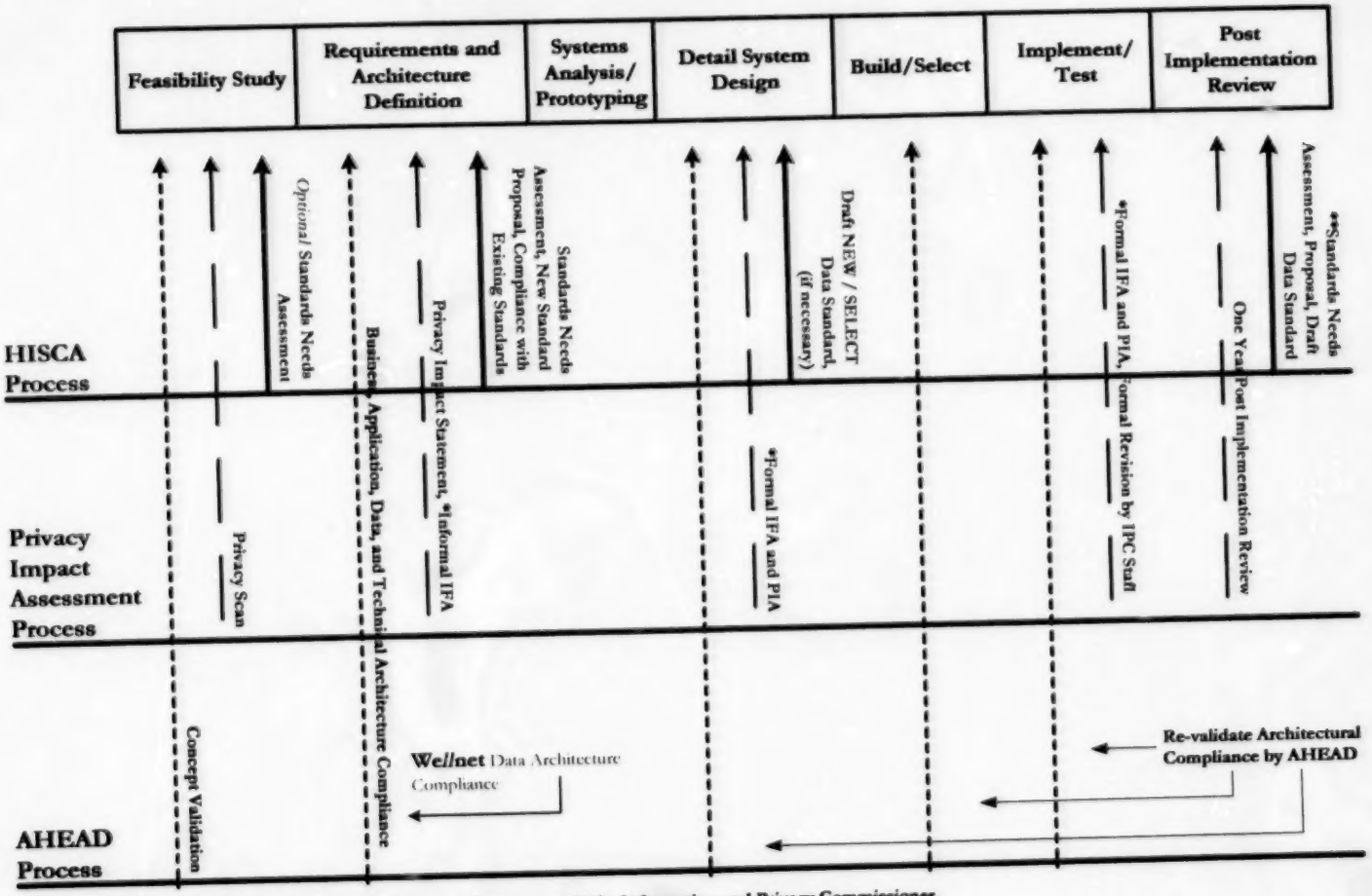
Review of Approved Standards

All approved standards are reviewed on a predetermined schedule (or sooner if industry changes deem it necessary). This review will determine whether an approved standard should be confirmed, revised or withdrawn.

APPENDIX A

STANDARDS DEVELOPMENT AND APPROVAL PROCESS TIMELINE

Figure A.1 - Standards Development and Adoption Process Timeline
Systems Development Methodology / Rapid System Development


Feasibility Study
Requirements and Architecture Definition
Systems Analysis/ Prototyping
Detail System Design
Build/Select
Implement/ Test
Post Implementation Review
HISCA Process
Privacy Impact Assessment Process
AHEAD Process
Optional Standards Needs Assessment
Standards Needs Assessment, New Standard Proposal, Compliance with Existing Standards
Draft NEW / SELECT Data Standard, (if necessary)
**Standards Needs Assessment, Proposal, Draft Data Standard
Privacy Scan
Privacy Impact Statement, *Informal IFA
*Formal IFA and PIA
*Formal IFA and PIA, Formal Revision by IPC Staff
One Year Post Implementation Review
Business Application, Data, and Technical Architecture Compliance
Concept Validation
Wellnet Data Architecture Compliance
Re-validate Architectural Compliance by AHEAD

*IFA - Information Flow Analysis, PIA - Privacy Impact Assessment, IPC - Information and Privacy Commissioner.
** HISCA Process for those established systems that are assessing standards.

APPENDIX B

STANDARDS NEEDS ASSESSMENT PROCESS

What is a Needs Assessment for Data Standards?

- Systematic identification of health information/technology standards gaps and/or duplication.
- Identifies what information needs to be standardized to ensure common understanding and comparability across time and jurisdictions.
- Identifies which data elements that need to be standardized in terms of definition, content and physical structure.
- Identifies what sets of data need to be captured together to optimize their value and minimize their costs.
- Identifies what specific rules are required to collect data consistently so that comparable information can be derived.

Why Do a Needs Assessment?

- Provides rationale for allocation of resources or budget priorities.
- Avoids duplication of efforts.
- Avoids gaps in standards development.
- Establishes credibility.
- Reduces crisis intervention; allows for a proactive approach.
- Provides baseline data for evaluation purposes.

Prerequisites to Needs Assessment

- Identify any prior or current activities that may meet the purpose of the needs assessment.
- Consider possible sources of information (existing provincial, international or national standards development organizations, defacto standards, etc.).

STANDARDS NEEDS ASSESSMENT PROCESS

The standards needs assessment process of developing and analyzing an information flow schematic may be used to examine in more detail the standards needs of a project. These tools have been identified as steps for defining whether existing standards should be adopted, or whether a new standard needs to be developed. It should be noted that these tools can (but not necessarily at the same time) be used in conjunction with the Privacy Impact Assessment (PIA) Process when identifying standards requirements for a project. Please refer to Appendix A to view process checkpoints that may overlap between PIA and HISCA processes.

Step 1. Develop an Information Flow Schematic

Develop an information flow schematic that clearly identifies the information flows and stakeholders involved in the **source** and **destination** of data.

Step 2. Information Flow Analysis

Once the information flow schematic is complete the first task is to identify the type of information represented by the information flow. From this information flow analysis, the analyst can then begin to identify those data elements and standards (Stakeholder Demographic, Service Event, PECS, etc.) and data collection and information exchange methods (data collection - service event, data classification - ICD9, and data exchange - HL7 messages) that exist or are required.

Please contact HISCA resource personnel for an example of an information flow analysis and schematic.

APPENDIX C – NEW STANDARD PROPOSAL

Proposal for a New Standard

HISCA Reference Number _____ Date_____

The proposed sponsor organization for this project is:

Organization Name _____ Represented By _____
Phone # _____ E-mail _____

Brief Description of the Proposed Standard

_____

_____

_____

How will this standard benefit the Alberta Health and Wellness system

_____

_____

_____

The proposed timelines and project milestones are:

Phase	Estimated Completion YYYY/MM/DD
Formal Project Start	
Needs Analysis and Business Case Documented	
Literature Review	
Impact Analysis (Privacy, Legislation, Implementation etc)	
Progress Report	
Draft Standard for Review	
Final Draft Standard for Approval	
Publication of Approved Standard	

The proposed working group is: (indicate additional names separately)

Name _____ Organization _____
_____ _____
_____ _____
_____ _____
_____ _____

The proposed review committee is: (indicate additional names separately)

Name _____ Organization _____
_____ _____
_____ _____
_____ _____
_____ _____

APPENDIX D – DRAFT STANDARD AND PRESENTATION TEMPLATE

D.1 Draft Data Standard

EXECUTIVE SUMMARY

Chapter 1. INTRODUCTION

Chapter 2. BACKGROUND

Chapter 3. THE DATA STANDARD

3.1 Data Standard Type: Entities/Records, Attributes/Fields, or Both

3.2 Source of the Data Standard, if adopted from elsewhere

3.3 Entities/Records, if applicable

3.4 Attributes/Fields, if applicable

Chapter 4. JUSTIFICATION

4.1 Results of the literature review (comparison with other jurisdictions)

4.2 Business case for the Alberta Health and Wellness system

4.3 Feasibility and ease or difficulty of implementation

4.4 Impact on privacy, confidentiality and security

4.5 Relationship to existing standards and/or legislation

4.6 Summary of consensus to date

Chapter 5. STANDARD USAGE

5.1 Users/Sharers and Usage of the Standard

5.2 Affected System

Chapter 6. CORRESPONDING DATA

6.1 Point(s)-of-Origin of the corresponding data

6.2 Location(s) of the corresponding data

6.3 Existing Duplications and/or Replications of the corresponding data

6.4 Maintenance of the corresponding data

6.5 Security and Privacy Class of the corresponding data

6.6 Life-cycle of the corresponding data

Chapter 7. SUGGESTED IMPLEMENTATION STRATEGY AND PLAN

7.1 Responsibilities

Chapter 8. COMMUNICATION PLAN

8.1 Stakeholders affected

8.2 Communication methods

GLOSSARY

APPENDICES

HISCA Reference Number _____ Date_____

Please note: This form is intended to capture all of the documentation required to define a Data Standard at the completion of the standards development process and six-month review period

Sponsors are asked to document whatever information is available to assist in the review and adjudication of the proposed standard. Additional information may, and should, be added to this definition as it becomes available over time.

EXECUTIVE SUMMARY

Executive summary of this document providing a quick overview and understanding of the work being presented to HISCA.

Chapter 1. INTRODUCTION

General introduction including identified needs/opportunity that lead to this work.

Chapter 2. BACKGROUND

History of the previous efforts including outcomes and reasons of their failures and/or successes in implementation, existence of multiple standards (if so) and its consequences.

Chapter 3. THE DATA STANDARD

Details of the standard being proposed using the following sections and sub-sections.

3.1 Data Standard Type: Entities/Records, Attributes/Fields, or Both

Development of complete data standards is usually a two step process. In the first step, standard for the entities/records is developed. Subsequently, each entity's attributes (fields) are identified/examined and standard for each one of them is developed. Select and write one of the three: Entities/records, Attributes/fields, or Both Entities/records and Attributes/fields as the type of the data standards being proposed.

3.2 Source of the Data Standard, if adopted from elsewhere

If applicable, give here complete details of the external supplier of the standard including legal responsibilities taken. Otherwise, write Internal Development.

3.3 Entities/Records, if applicable

If the standard being proposed is for Entities/records or for both Entities/records and Attributes/fields, complete this section in full for each entity/record E1, E2, etc. using sections 3.3.1, 3.3.2, etc. If the standard being proposed is for Attributes/fields, provide here all available information about their parent entities/records and references to their standards.

3.3.1 Entity/Record E1

3.3.1.1 Definition

Provide here the formal (standard) definition of the entity/record.

3.3.1.2 Detailed Description

Provide here the detailed description of the entity/record with supporting examples.

3.3.1.3 Related Entities/Records

For a full understanding of an entity, details of the other related entities and their relationship to the entity in question must be known and understood. Provide here this contextual information using the following three sub-sections.

3.3.1.3.1 DEFINITIONS OF RELATED ENTITIES/RECORDS

For each known related entity, provide the standard (or best-known) definition here.

3.3.1.3.2 RELATIONSHIP DEFINITIONS

For each known relationship between the entity in question and the related entities, provide the standard (or best-known) definition here.

3.3.1.3.3 DATA MODEL

Provide here the data model showing the various entities and relationships. Modeling conventions and notations as well as the details of the tool used must always be included here.
Also indicate how these entities relate to the Health Contextual Data Model

3.3.1.4 CONSTRAINING BUSINESS RULES

Business rules impose constrains on the data and they must be standardized, understood, and implemented accurately. Provide here the details of all applicable/known business rules.

3.3.1.5 ASSUMPTIONS

Describe here any assumptions that were made in the absence of available information. i.e. Working Definitions

3.3.1.6 VALIDATING SCENARIOS

Provide here descriptive real world examples of the use of the data to get business work done. These examples usually cover the full story of an event such as a decision making, answering to a question from a client, and responding to a change of state of something. Each scenario must cover all W5s (Who/Whom, What, Where, When, and Why) and the H (How). Scenarios must be presented from the user perspective and individually tested that they validate the standard. Scenario validation must also be demonstrated here using the data model given in section 3.3.1.3.3 above.

3.3.2 Entity/Record E2

... ...

3.4 Attributes/Fields, if applicable

If the standard being proposed is for Attributes/fields or for both Entities/records and Attributes/fields, complete this section in full for each attribute/field A1, A2, etc. using sections 3.4.1, 3.4.2, etc.

3.4.1 Attribute/Field A1

3.4.1.1 Definition

Provide here the formal (standard) definition of the attribute/field.

3.4.1.2 Detailed Description

Provide here the detailed description of the attribute/field with supporting examples.

3.4.1.3 Format (Attribute/ Field Type)

Provide here the format such as 8 characters, 5-digit integer, floating point number with 2 decimal places, 256-character long text field etc. Include examples.

3.4.1.4 Code Table (Valid Values, if the attribute/field represent a business code)

If the attribute/field in question is a business code, provide code values here. Examples of business codes are Marital Status (1-Married, 2-Unmarried, 3-Divorced), Patient Category (1-Inpatient, 2-Outpatient).

3.4.1.5 Constraining Business Rules

Business rules impose constrains on the data and they must be standardized, understood, and implemented accurately. Provide here the details of all applicable/known business rules.

3.4.1.6 Assumptions

Describe here any assumptions that were made in the absence of available information.

3.4.1.7 Validating Scenarios

Provide here descriptive real world examples of the use of the data to get business work done. These examples usually cover the full story of an event such as a decision making, answering to a question from a client, and responding to a change of state of something. Each scenario must cover all W5s (Who/Whom, What, Where, When, and Why) and the H (How). Scenarios must be presented from the user perspective and individually tested that they validate the standard. Scenario validation must also be demonstrated here using the data model given in section 3.3.1.3.3 above.

3.4.2 Attribute/Entity A2

... ...

Chapter 4. JUSTIFICATION

This section is to be used to provide justification-related information.

4.1 Results of the literature review (comparison with other jurisdictions)

Provide here the details of the literature reviewed and conclusions arrived at from them. What was useful? Why and how it was useful? What was not useful and why?

4.2 Business case for the Alberta Health and Wellness system

Present here the business case for the request being made for the approval and subsequent implementation of the proposed standard within the Alberta Health and Wellness System. Include the details of the health sector business context for the standard being proposed. Also, include the description of information flows between various business areas. Such information flows become more meaningful, easy to monitor and execute, and cost effective when the common standard is used and shared across the business areas involved.

4.3 Feasibility and ease or difficulty of implementation

Provide here the answers to the questions such as: How feasible will it be to implement the proposed standard across the health system? What will be the economic, technical, operational, and (corporate) cultural consequences of the implementation of this standard? How long it will take to implement it fully? Can it be implemented in a step-wise fashion? If so, how?

4.4 Impact on privacy, confidentiality and security

A privacy protection process has been developed for alberta we//net in conjunction with the Alberta Health and Wellness Freedom of Information and Protection of Privacy Act (FIOP) Office. This process includes the completion of Privacy Impact Assessments (PIAs) which will be completed on all proposed computer systems. Include that assessment here if this standard is being developed in conjunction with a build/enchantment of a computer system.

4.5 Relationship to existing standards and/or legislation

If there are some existing related standard(s) that are presently being used (and which should be replaced by the proposed standard), provide their details here.
Are there some other pieces of related legislation? If so, provide their details here including the impact they have on the proposed standard and its implementation.

4.6 Summary of consensus to date

Provide here the details of the consensus reached for the development of the data standard. Was there any major disagreement? Specifically, have some parts of the health sector and business opted out due to disagreements? If so, provide details of the reasons it was deemed unavoidable?

Chapter 5. STANDARD USAGE

Provide here the details of the usage of the proposed standard using the following sections and sub-sections. The details basically cover the W5s (Who, What, Where, When, and Why) and the H (How).

5.1 Users/Sharers and Usage of the Standard

Provide here the details of the organizational components and individuals (if applicable) within the entire health system who will be using this standard for the corresponding data. Include geographic location(s) information for these organizational components. It gives us an idea of the degree of geographic spread (distribution) of the related shared data. Also, include the details of the functions for which they presently use or will be using such data. Having users from multiple organizational and/or functional areas reflects the fact that these parties must ideally share the corresponding data.

5.2 Affected System

In the following two sub-sections, provide the details of systems that will be affected if the standard being proposed is implemented. Such information must have been explored in order to ensure desired participation of the appropriate stakeholders in the standard development process.

5.2.1 Automated Information System

Provide here the details of the automated information systems that process the corresponding data and will thereby be affected if the proposed standard is imposed upon them. If known, also include details of similar automated information system that are being developed presently or have been planned for future development. Attempt should be made to explore and provide full lists of systems.

5.2.2 Other Practices and Processes

There may be some manual systems (processes and practices) that are going to be affected by the I implementation of the proposed standard. If so, provide their details here.

Chapter 6. CORRESPONDING DATA

Corresponding data is the data that will follow the standard being proposed. Implementation of any data standard is actually the exercise of ensuring that the corresponding data is created, used, and maintained following the standard. Information collected in this chapter will primarily be useful in the implementation of the standard across the health sector business.

6.1 Point(s)-of-Origin of the corresponding data

Point-of-origin of a piece of data is the place where it is initially captured. This place may not be same as the place where it is kept and maintained. Provide here the details of the point(s)-of-origin such as "in the hospitals at their admitting area", "in the regional head-quarters at the general reception desk", and "at the accident sites". Note that a kind of data may be captured at more that one place. A single occurrence of a kind of data such as "a hospital visit by a patient" will however be captured at one and only one place.

6.2 Location(s) of the corresponding data

Locations of the data are places where the data is kept and maintained. They may or may not always be same as the point(s)-of-origin of the data. Locations of a given kind of data may be distributed and the data may be partitioned for business reasons and kept at various geographically different locations. For example, data about hospital visits may be partitioned by hospitals and kept and maintained at individual hospitals. It may be consolidated at a given or may be used directly from these locations location for analysis. Provide here the details of the corresponding data locations.

6.3 Existing Duplications and/or Replications of the corresponding data

In a non-shared data environment, data is duplicated in different business areas having their own data/system islands. This may also occur even when common standards are in place. Data duplication implies that data is being created in different business areas independently. This leads to data redundancy. An example would be where a Financial System and a Human Resources system create, maintain, and use their own employee data. Shared data environment where one and only one copy of the data is created, maintained, and used. Sometimes, although data is created and maintained within a single business area, it is replicated i.e. copied for use by other areas. Data replications are planned and managed depending upon "how frequently the data changes" the data currency requirements. Provide the details such as where, when, why, and how both for duplications and replications, if any, of the corresponding data here.

6.4 Maintenance of the corresponding data

If the corresponding data already exists, provide details of its "Data Maintenance Guidelines and Procedure", if any. Are they being used appropriately? Provide all the details. If such "guidelines and procedure" does not exist, indicate so here and suggest appropriate "Data Maintenance Guidelines and Procedure" in section 6.6.5 below.

6.5 Security and Privacy Class of the corresponding data

In the following sub-sections, provide the security and the privacy classifications of the corresponding data. Note that the determinants of these may be certain policies and legislation in place.

6.5.1 Security Class

Provide the security class of the corresponding data here. Include the details of the security classification scheme used.

6.5.2 Privacy Class

Provide the privacy class of the corresponding data here. Include the details of the privacy classification scheme used.

6.6 Life-cycle of the corresponding data

This section is to be used to provide information about the life cycle of the corresponding data. Note that some of the events relating to the data life cycle may be dependent of certain policies and legislation in place.

6.6.1 Update Frequency

Provide here the frequency at which the corresponding data updates take place.

6.6.2 Retention Period

Provide here the duration of time for which corresponding data must be retained. Include the details as to how this was determined and what rationale was used to determine it.

6.6.3 Archiving Guidelines

Provide here the details of the archiving process that must be used for the corresponding data.

6.6.4 Disposition

How the data will be disposed? Include details as to how information privacy related policies are taken into account in the data disposition process.

6.6.5 Maintenance Guidelines and Procedure

If not already covered in section 6.4 earlier, provide here the suggested "Data Maintenance Guidelines and Procedure" that would be appropriate for managing the full life cycle of the corresponding data.

Chapter 7. SUGGESTED IMPLEMENTATION STRATEGY AND PLAN

This chapter pertains to implementation of the proposed data standards providing very basic preliminary information only. This information is to be used to develop a full implementation plan. Use the following sections and sub-sections to provide this information.

7.1 Responsibilities

Implementation of the proposed standard will also require certain roles and responsibilities to be defined and assigned. In the following two broad categories, provide the description of the responsibilities for both the standard and the corresponding data. Include here the proposed names for the assignment of these responsibilities. Note that these and other related responsibilities will be standardized in the near future.

7.1.1 Responsibility for the Standard

Provide the description of responsibility for the standard and suggest at least one name for its assignment.

7.1.2 Responsibilities for the corresponding data

Provide the description of responsibilities for the corresponding data and suggest names for their assignments.

Chapter 8. COMMUNICATION PLAN

8.1 What is communicated?
8.2 Communicated to Whom?
8.3 Method of communication
8.4 Who is responsible
8.5 When?
8.6 Comments/Progress

GLOSSARY

Include here a glossary of all technical and other not self-explanatory terms used in the document. Include description of the acronyms used.

APPENDICES

Include here any other documentation components that may be relevant, could not be included in the body, and are relevant to this particular data standard

D.2 Components of a Data Element Standard

For the purposes of defining standards, a data element may be thought of as being either a compound element or an atomic data element. Compound and/or atomic data elements may be grouped together to form an Information Cluster.

Information Cluster

Information clusters are generally subject area topics of interest in the health information system, comprising of a group of data elements or other informational items. Examples include Person Identification Information, Registration Information, or Stakeholder Identification information.

Compound Data Elements:

Compound data elements are usually generic informational items that have component parts. These data elements have component parts for which business requires that they be defined, described, and identified separately. Standards are required for the level of granularity of the compound data element, as well as nomenclature for the component parts. Examples of compound data elements are:

Address
An address is a compound data element (logical element) for which a rationale for its standardization may be defined. However, there is always a business requirement to deal with an address in its component parts.

Name
A person's name is another compound data element for which standards for its component parts may differ from organization to organization.

Standards are required for the breakdown (# of component elements), as well as the names for which these component parts are to be referred. The following is an example of the three different compositions of a name and the difference in which the component parts are referred to, by different organizations.

Last Name / First Name / Middle Name
Vs
Surname / First Given name / Second Given Name / Third Given Name
Vs
Family name / Given Name / Middle Name / Prefix/Suffix

Atomic Data Elements:

These are data elements that cannot be broken into components and still retain their meaning to a business. Examples of atomic level data elements are:

- Gender
- Last Name
- Stakeholder Unique Lifetime Identifier (ULI)

Categories of Information – Used in the ISO Template

Definition
A brief description of the data element in terms of its significance and intended use.

Storage Format
This is the physical characteristic (data type & size) assigned to an atomic level data element when it is stored in an electronic medium.

Presentation/Display Format
This is the standard being proposed for displaying or printing the value of the data element.

Requirement for Standard
Brief description of the rationale for proposing that the data element be standardized.

Valid Values
For those data elements that take on discrete set of values, this is the list of values being proposed as a standard set.

Business Rules / Coding Guidelines
The basic rules and guidelines governing the existence and often the use of this data element will be described here. Detail rules regarding when and under what circumstances the data element must be captured will be described by application specific guidelines.

Implementation Consideration
Any other details pertaining to rules of capture, potential documentation requirements, and apparent usage scenarios, are captured here for future reference.

Development Notes.
Details of the standard definition analysis, the prevailing national and international standards that were evaluated, and the rationale for any alignment/adaptation to prevailing standards, are described in this section.

D.3 Document Format – ISO Standards Template

D.3.1 Cluster Name: Person Identification Information

Cluster Name:	**Person Identification Information**
Version:	0
Status:	Draft
Standard Category:	Information Standard
Standard Sub-category:	Data Standard
	Date Revised:
	Adopted[A]/Rejected[R]:
	Date Adopted/Rejected:

Component Elements:

- Provincial Health Number Type
- Provincial Health Number
- Alternate Person Identifier Type
- Alternate Person Identifier
- Person Name
- Gender
- Birth Date
- Death Date

Requirement for Standard:

The Provincial Health Number is the primary means by which individuals are identified, but in the absence of such a unique identifier, personal identification information such as name, birth date, gender and death date are sufficient to provide accurate and positive identification.

D.3.2 Element Name: Provincial Health Number

Element Name:	**Provincial Health Number**
Cluster Name:	Person Identification Information
Version:	0
Status:	Draft
Standard Category:	Information Standard
Standard Sub-category:	Data Standard
	Date Revised:
	Adopted[A]/Rejected[R]:
	Date Adopted/Rejected:

Definition:

This is the identifier assigned to a person by a province. It presumes eligibility for basic health services for the person from the designated province.

Storage Format: C15

Presentation/Display Format:

Requirement for Standard:

Since inter-provincial exchange of health services (Medical-Reciprocal billing services) is an integral part of the health system, it is important that representation of provincial health numbers be standardized.

Valid Values:

For Alberta, valid Provincial Health Numbers are the set of ULIs that have been assigned to stakeholder persons upon registration in Alberta Health and Wellness's Central Stakeholder Registry.

For all other Provincial Health Numbers, the valid set of identifiers are not available, however, their authenticity can be verified using the specific provincial health number validation algorithms.

Business Rules / Coding Guidelines:

Implementation Considerations:

Development Notes:

Different provincial health jurisdictions have different algorithms for assigning unique identification for clients in their health systems. The procedures for validating these provincial health numbers will be maintained centrally.

D.3.3 Compound Element Name: Person Name

Compound Element Name:	**Person Name**
Cluster Name:	Person Identification Information
Version:	0
Status:	Draft
Standard Category:	Information Standard
Standard Sub-category:	Data Standard
	Date Revised:
	Adopted[A]/Rejected[R]:
	Date Adopted/Rejected:

Definition:

The label by which a person is known and spoken to .

Requirement for Standard:

The rationale for standardizing a person's name is described as part of the Person Identification Information Cluster.

Component Elements:

- Prefix C5
- Last Name C50
- Given Name C50
- Middle Name C50
- Suffix C5

Business Rules / Coding Guidelines:

A person may be known by more than one name at the same time or over time. The various person name types include:

Alias
A personal name which an individual is using or has used.

Preferred Name
The name a person prefers to use in communicating with other health system stakeholders.

Legal Name

Professional Name

Either the preferred or professional name would be used depending on business context and business unit.

Development Notes:

HL7 has defined a total of 48 character positions for the exchange of the following component parts of a name:
<family name (ST) & <last_name_prefix (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g., JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^<degree (e.g., MD) (IS)>

The total length of a name being proposed here, including suffix does exceed the 48 characters specified by HL7 for data interchange across systems, especially given that the 48 characters include a total of 4 separator characters. Thus, with the proposed composition, the name (without the Prefix) could total 155 characters.

'Given' is being proposed in place of 'First' to conform with HL7 standard nomenclature.

'Last' is being proposed as opposed to HL7's nomenclature of 'Family' because the term 'family' conveys a meaning not intended to be conveyed by a person's last name or surname.